



“It was a challenge, but an enjoyable one,” says Jim Anderson, who converted a used Deere 9920 cotton picker into a silage chopper equipped with a dump box.



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By Jim Ruen, Contributing Editor

Cotton Picker Converted To Self-Propelled Corn Chopper

Jim Anderson converted a used cotton picker into a silage chopper with a box that dumps. The self-propelled 2-row chopper doesn't knock down corn rows like his pull-type chopper did. It also didn't cost him as much as a conventional chopper.

“Why pay \$100,000 or more for a self-propelled corn chopper when I only harvest 40 acres of silage?” asks Anderson. “The cotton picker only cost me \$3,500, and even with all the changes, total cost was under \$15,000.”

Making the transformation took Anderson more than a year of his spare time. He began by stripping down the 9920 Deere cotton picker. To improve visibility, he lowered the cab about 6 in. The cotton basket was replaced by a side-dump box from a silage wagon.

“We had to add a hydraulic valve for a second cylinder to handle the increased weight of silage,” says Anderson. “We mounted that cylinder over the steering axle. It helps to hold the dump box firm so it

doesn't flip over when it's raised up.”

The chopper head is a converted chopper unit from a 3970 Deere pull-type chopper. It required extensive rebuilding, as he had to move the blower from the left side to the right side. That meant reversing the right-to-left feeding system.

“I had to change the auger direction and shorten it,” says Anderson. “It took quite a bit of tooling. I also had to shorten the frame so it would fit between the two front (drive) wheels.”

Anderson fabricated a bracket out of 5 by 5-in. steel tubing to hang the chopper header onto the original cotton picker header mount. Using the original cotton picker header lift system, he can lower the bracket with the chopper header about 6 to 8 in. He can then lower the chopper heads even closer to the ground using the chopper header's lift system.

“It gives me up to 12 in. ground clearance at the fully raised position,” he says. “That makes for better handling on rough ground

and gives me the option of leaving more stalk on the ground.”

Initially the chopper ran off the same hydrostatic pump as the picker head. Anderson quickly found he needed to modify it due to the occasional need to lug down. He moved the hydrostatic pump to the right side of the engine and the pto drive to the left side, running both off a jackshaft. Step-down pulleys on the pto drive run the chopper at 1,000 rpm's when the engine is running at 2,000 rpm's. Anderson installed an electromagnetic clutch between the pto driveshaft and the chopper drive.

With the changes, he's able to control engine speed, ground speed and pto speed separately. An auxiliary hydraulic pump on the engine powers the steering, lift cylinders and other hydraulic needs.

“It was a challenge, but enjoyable,” says Anderson. “It ended up costing more than I expected due to the need for the electromagnetic clutch.”



Chopper head is a converted unit from a Deere 3970 pull-type harvester.

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Ditch Bank Mower Made From Worn-Out Cotton Picker

James Doughtie's rotary mower has a 135° cutting range. He can go from trimming a 7-ft. tall, vertical bank of vegetation to clipping a 45° ditch bank sloping away from the roadway.

“I had a 1988 cotton picker that was just worn out and a 3-pt. hitch deck mower with a worn out main frame,” recalls Doughtie. “I stripped the cotton picking equipment off the picker and mounted the mower on the header pickup arms.”

He points out that old cotton picker heads were combination chain and gear units that wore out faster than the newer all gear-driven heads. The engines, transmissions and hydraulics are often still in good shape.

“If you put some imagination to it, there is a lot you can do with them,” suggests Doughtie. “I have another one I plan to turn into a self-propelled spray unit with a tank where the cotton basket was and a boom sprayer in front.”

He needed a way to hang the mower. “I had an old 4 by 7-in. toolbar that I cut up and welded as vertical shafts on the lift tubes, reinforcing them and providing mounts for the mower toolbar,” says Doughtie.

The range of motion of the mower is made possible by the original header lift and multiple pivot points controlled by hydraulic cylinders. The mower deck hangs to the operator's right hand side.

The other end of its 4 by 4-in. toolbar pivots from the leftmost of the two vertical shafts on the header lift. A hydraulic cylinder hangs from a bracket at the top of the vertical shaft

to the front right of the operator and attaches to the toolbar. A second and smaller length of square tubing is attached top and bottom to the shaft anchoring the cylinder. The two shafts bracket the mower toolbar and create a slot for it as it raises and lowers with the cylinder.

“The slot keeps the mower toolbar from twisting,” says Doughtie. “Using the lift arms, I can lower the toolbar and mower deck to within about 6 in. of the ground. When I raise the lift arms and retract the cylinder ram, I can lift the mower deck about 7 ft. high.”

The 90° cut above ground level and the 45° cut down slope are made possible by the second pivot point where the mower toolbar connects to the deck. A second hydraulic cylinder controls this pivot point. The cylinder engages a pivoting arm that is chain-linked to the mower deck. The deck itself pivots freely on the arm, with the chain allowing it to float over the rough ground surface.

Cotton pickers use large fans to move the cotton from the headers to the basket. Doughtie disconnected them and used the drive pulleys to power a hydraulic pump. While the picker's existing hydraulics power the header lift and cylinders, he needed additional hydraulic pressure for the hydraulic motor on the mower deck.

“The hoses to the mower motor are the only problem I ran into,” says Doughtie. “The extra length needed when the deck is extended out and down can catch on brush when the deck is up.”



To build this ditch bank mower, James Doughtie stripped all cotton components off an old cotton picker and then mounted a 3-pt. mounted deck mower on the header pickup arms.

Doughtie also notes that he had to reinforce the original mower deck toolbar. “I took the end caps off and slipped a length of Schedule 8 pipe that just fit inside the square tubing and welded it in place. That provided all the

reinforcement needed.”

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The Problem With Cotton Pickers

Used cotton pickers, especially smaller 2-row models, are not expensive. So why don't more of them get converted to other uses? With their hydrostatic drives, they appear to be easy to transform. However, according to Jim Anderson (see story above) the hydrostatic drive is the biggest drawback.

Cotton pickers are not designed for lugging. They just move smoothly through the field. The key to using a cotton picker for other uses is to separate the power needed to move the machine from the power needed to complete the task. Anderson did this by removing the hydrostatic pump from the engine and connecting it with a jackshaft. A belt from the pump powers the pto drive, and an electromagnetic clutch on the drive itself gave Anderson separate control of the pto.